

What is claimed is:

- 1        1.    A dual-sided flat panel display structure,  
2    comprising:  
3        two sets of light source modules;  
4        two polarizing plates between the light source modules;  
5        a first and second substrates between the polarizing  
6        plates;  
7        a driving array at an inner side of the first  
8        substrate; and  
9        light valve device between the first substrate and  
10       second substrates.
- 1       2.    The structure as claimed in claim 1, further  
2    comprising a color filter between the polarizing plates.
- 1       3.    The structure as claimed in claim 1, wherein  
2    screen sizes on either side thereof are the same or  
3    different.
- 1       4.    The structure as claimed in claim 1, wherein the  
2    flat panel display is a liquid crystal display (LCD).
- 1       5.    The structure as claimed in claim 1, wherein the  
2    driving array comprises a thin film transistor (TFT) array.
- 1       6.    The structure as claimed in claim 1, wherein the  
2    driving array comprises a passive matrix driving array.
- 1       7.    The structure as claimed in claim 1, wherein the  
2    driving array comprises a thin film diode (TFD) array.

1        8.    The structure as claimed in claim 1, wherein the  
2 flat panel display is a STN-LCD.

1        9.    The structure as claimed in claim 1, wherein the  
2 flat panel display is an organic light-emitting diode (OLED)  
3 display.

1        10.   The structure as claimed in claim 1, wherein the  
2 flat panel display is an electrophoresis display.

1        11.   The structure as claimed in claim 1, wherein the  
2 light source modules are provided by the same light source.

1        12.   The structure as claimed in claim 1, wherein the  
2 light source modules are provided by different light  
3 sources.

1        13.   The structure as claimed in claim 1, wherein the  
2 light source of the light source modules is LEDs.

1        14.   The structure as claimed in claim 1, wherein the  
2 light source of the light source modules is cold cathode  
3 fluorescent lamps.

1        15.   The structure as claimed in claim 1, wherein the  
2 light source comprises red light, blue light, and green  
3 light.

1        16.   The structure as claimed in claim 1, wherein the  
2 light source comprises yellow light, magenta light, and cyan  
3 light.

1        17. The structure as claimed in claim 1, wherein the  
2 light source is white light source.

1        18. An operating method of a dual-sided flat panel  
2 display having a first and second light source modules, two  
3 substrates between the first and second light source  
4 modules, and a driving array on an inner side of the first  
5 substrate, comprising:  
6        (a) lighting the first light source module;  
7        (b) outputting a first image signal from the driving  
8            array to control a first display of a first  
9            image;  
10        (c) switching off the first light source module,  
11            followed by lighting the second light source  
12            module;  
13        (d) outputting a second image signal from the driving  
14            array to control a second display of a second  
15            image;  
16        (e) switching off the second light source module,  
17            followed by lighting the first light source  
18            module; and  
19        (f) repeating steps (b) through (e).

1        19. The method as claimed in claim 18, wherein the  
2 driving array comprises a of thin film transistor (TFT)  
3 array.

1        20. The method as claimed in claim 18, wherein the  
2 driving array comprises a passive matrix driving array.

1        21. The method as claimed in claim 18, wherein the  
2 driving array comprises a thin film diode (TFD) array.

1        22. The method as claimed in claim 18, wherein the  
2 flat panel display is a STN-LCD.

1        23. The method as claimed in claim 18, wherein the  
2 flat panel display is an organic light-emitting diode (OLED)  
3 display.

1        24. The method as claimed in claim 18, wherein the  
2 flat panel display is an electrophoresis display.

1        25. The method as claimed in claim 18, wherein the  
2 first and second light source modules are provided by the  
3 same light source.

1        26. The method as claimed in claim 18, wherein the  
2 first and second light source modules are provided by  
3 different light sources.

1        27. The method as claimed in claim 18, wherein the  
2 light source of the light source modules is LEDs.

1        28. The method as claimed in claim 18, wherein the  
2 light source of the light source modules is cold cathode  
3 fluorescent lamps.

1        29. The method as claimed in claim 18, wherein the  
2 light source is white light source.

1        30. The method as claimed in claim 18, wherein the  
2 light source comprises red, blue, and green light.

1        31. The method as claimed in claim 18, wherein the  
2 light source comprises yellow, magenta, and cyan light.

1        32. The method as claimed in claim 18, wherein the  
2 length of time the first and second light source modules are  
3 lit is less than 24 milliseconds.

1        33. The method as claimed in claim 18, wherein a ratio  
2 of the length of time the first light source module is lit  
3 to that of the second light source module is between 3 and  
4 1/3.

1        34. The method as claimed in claim 18, wherein the  
2 first and second signals display different images.

1        35. The method as claimed in claim 18, wherein a  
2 reaction time of a liquid crystal molecule is shorter than  
3 20 milliseconds when using white light as a light source.

1        36. The method as claimed in claim 18, wherein a  
2 reaction time of a liquid crystal molecule is shorter than  
3 10 milliseconds when using red, blue, and green light as  
4 light sources.

1        37. The method as claimed in claim 18, wherein the  
2 first and second signals display images using imaging  
3 sequential technology.

1        38. The method as claimed in claim 18, wherein the  
2 first and second signals display images using color  
3 sequential technology.